

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Original) A composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte comprising:

d) at least one polyorganosiloxane (POS) (A) exhibiting, per molecule, at least two C₂-C₆ alkenyl groups bonded to silicon and at least one group directly bonded to a silicon atom comprising a polyoxyalkylene (Poa) ether functional group;

e) at least one polyorganosiloxane (POS) (B) exhibiting, per molecule, at least two hydrogen atoms bonded to silicon;

f) a catalytically effective amount of at least one hydrosilylation catalyst (C); and

g) at least one electrolyte salt (D).

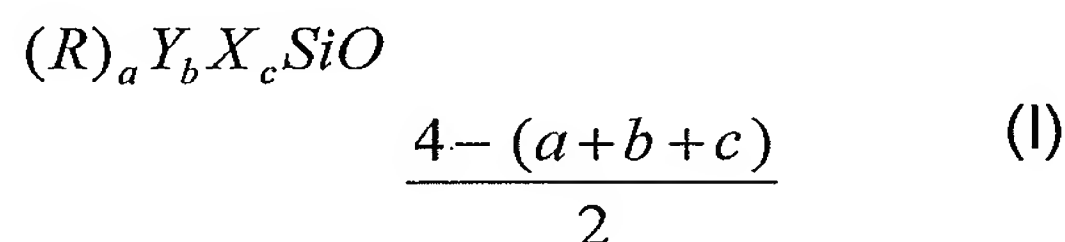
2. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1, wherein the proportions of the POS (A) and of the POS (B) are such that the ratio of the number of the hydrogen atoms bonded to silicon in the POS (B) to the number of alkenyl radicals contributed by the POS (A) is between 0.4 and 10.

3. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1,

wherein the polyoxyalkylene (Poa) ether functional group of the (POS) (A) is of polyoxyethylene ether and/or polyoxypropylene ether type.

4. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1, wherein the POS (A) is a ~~polyfunctional~~ polyfunctional POS comprising:

- a) per molecule, at least two alkenyl functional groups;
- b) at least two identical or different units of formula (I):



in which:

- the R symbols, which are identical or different, each represent a monovalent hydrocarbon group chosen from a linear or branched alkyl radical having from 1 to 6 carbon atoms, a cycloalkyl radical having from 5 to 8 carbon atoms, an alkoxy radical and a phenyl radical;
- the Y symbols, which are identical or different, each represent an R¹-Poa group where the R¹ symbol represents a radical comprising from 2 to 50 carbon atoms and the Poa symbol represents a group of polyoxyalkylene ether type;
- the X symbols, which are identical or different, each represent C₂-C₆ alkenyl functional group bonded to silicon;
- the symbols a and b are identical or different numbers chosen from the values 0, 1, 2 or 3;

- the c symbol is 0 or 1; and
 - the sum $a + b + c$ being other than zero ≤ 3 ; and
- c) optionally at least one siloxyl unit of formula $R_kSiO_{(4-k)/2}$, the R symbol having the same definition as above and k being a number between 1 and 3.

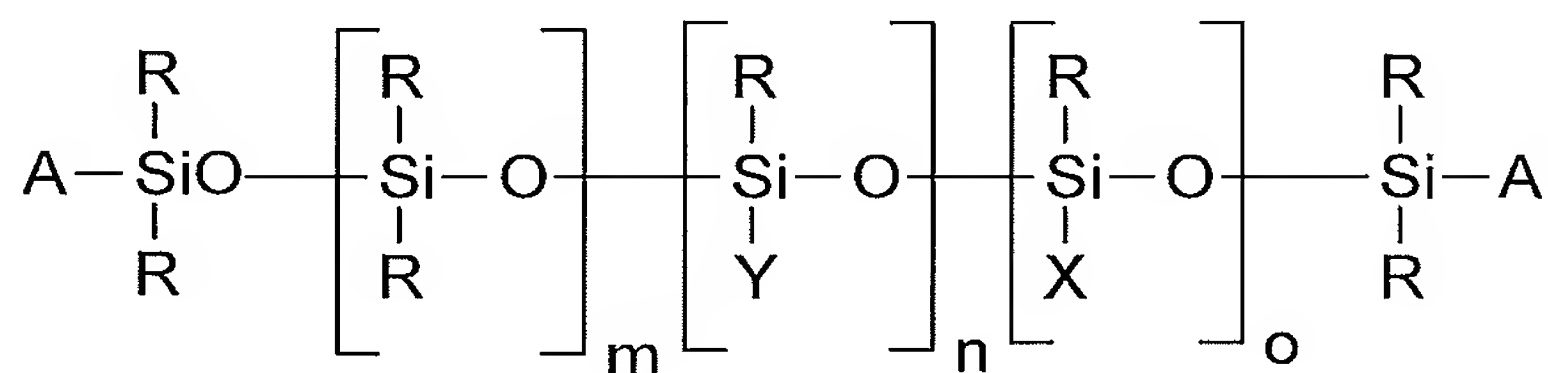
5. (Currently Amended) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 4, wherein the $-R^1-Poa$ groups are chosen from the following groups:

$-(CH_2)_3-O-(CH_2CH_2-O)_m-CH_3$; $-(CH_2)_2-O-(CH_2CH_2-O)_m-CH_3$;

$-(CH_2)_3-O-(CH(CH_3)-CH_2-O)_m-CH_3$ and $-(CH_2)_2-O-(CH(CH_3)-CH_2-O)_m-CH_3$

with $m \leq [4]$ 14.

6. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1, wherein the POS (A) is an essentially linear random or block copolymer with the following mean general formula (II):



which can optionally comprise units of formula $RSiO_{3/2}$ (T), in which formula:

- the R symbols, which are identical or different, each represent a monovalent hydrocarbon group chosen from a linear or branched alkyl radical having

from 1 to 6 carbon atoms, a cycloalkyl radical having from 5 to 8 carbon atoms, an alkoxy radical and a phenyl radical;

- the Y symbols, which are identical or different, each represent an R¹-Poa group where the R¹ symbol represents a radical comprising from 2 to 50 carbon atoms and the Poa symbol represents a group of polyoxyalkylene ether type;
- the X symbols, which are identical or different, each represent a C₂-C₆ alkenyl functional group bonded to silicon;
- the A symbols, which are identical or different each represent an R symbol, an X symbol or a Y symbol, the said symbols having the same definitions as above;
- m is an integer or fractional number greater than or equal to 0;
- n is an integer or fractional number greater than or equal to 1; and
- o is an integer or fractional number greater than or equal to 2.

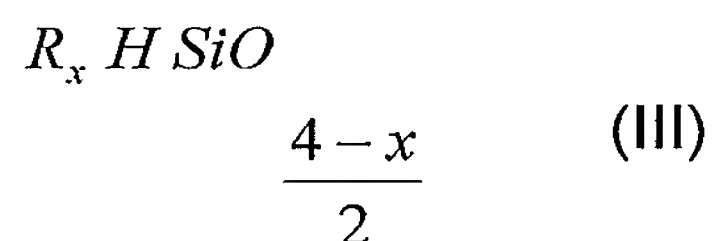
7. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 6, wherein:

- m is an integer or fractional number greater than or equal to 0 and less than or equal to 200;
- n is an integer or fractional number greater than or equal to 1 and less than or equal to 200; and
- o is an integer or fractional number greater than or equal to 2 and less than or equal to 200.

8. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 6, wherein the number of units carrying the alkenyl functional group X is chosen so that the alkenyl functional groups X represent a content, expressed as % with respect to the total weight of the POS (A), of between 0.5 and 5%.

9. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 6, wherein the POS (B) comprises:

a) at least two identical or different units of formula (III)



in which formula:

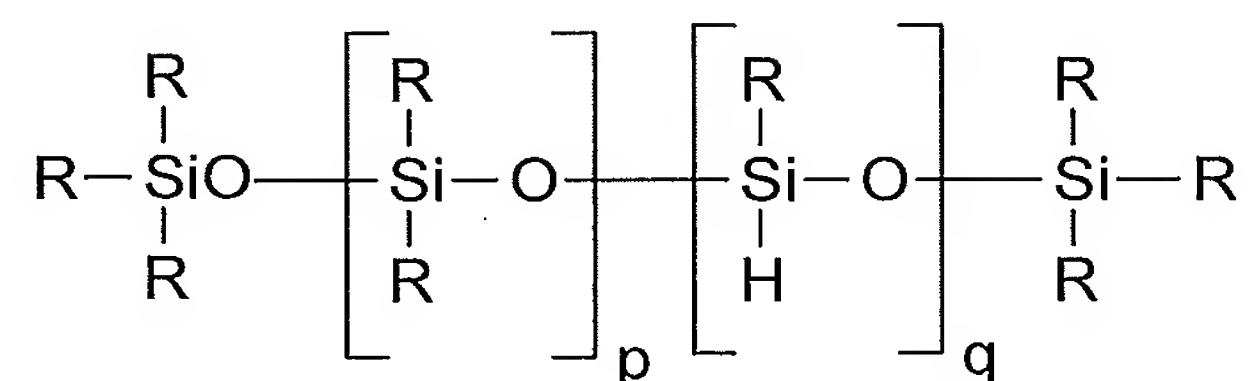
- the R symbols, which are identical or different, each represent a monovalent hydrocarbon group chosen from a linear or branched alkyl radical having from 1 to 6 carbon atoms, a cycloalkyl radical having from 5 to 8 carbon atoms and a phenyl radical; and

- x is a number between 1 and 3 inclusive; and

b) optionally at least one siloxyl unit of formula $R_k Si O_{(4-k)/2}$, the R symbol having the same definition as above and k being a number between 1 and 3.

10. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1,

wherein the POS (B) is an essentially linear random or block copolymer with the following mean general formula (IV):



in which formula:

- the R symbols, which are identical or different, each represent a hydrogen, a monovalent hydrocarbon group chosen from a linear or branched alkyl radical having from 1 to 6 carbon atoms, a cycloalkyl radical having from 5 to 8 carbon atoms, and a phenyl radical;
- p is an integer or fractional number greater than or equal to 0; and
- q is an integer or fractional number greater than or equal to 2 which can optionally be equal to 0, with the condition that, when q=0, then the two end M groups carry a hydrogen directly bonded to the silicon atom.

11. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1, wherein the electrolyte salt (D) comprises:

- a cation chosen from the group consisting of the following entities: metal cations, ammonium ions, amidinium ions and guanidinium ions; and;
- an anion chosen from the group consisting of the following entities: chloride ions, bromide ions, iodide ions, perchlorate ions, thiocyanate ions,

tetrafluoroborate ions, nitrate ions, AsF_6^- , PF_6^- , stearylsulfonate ions, trifluoromethanesulfonate ions, octylsulfonate ions, dodecylbenzenesulfonate ions, R^4SO_3^- , $(\text{R}^4\text{SO}_2)(\text{R}^5\text{SO}_2)\text{N}^-$ and $(\text{R}^4\text{SO}_2)(\text{R}^5\text{SO}_2)(\text{R}^6\text{SO}_2)\text{C}^-$; in each formula, the R^4 , R^5 and R^6 radicals are identical or different and represent electron-withdrawing groups.

12. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 11, wherein the R^4 , R^5 and R^6 radicals are electron-withdrawing groups of perfluoroaryl or perfluoroalkyl type, the perfluoroalkyl group comprising from 1 to 6 carbon atoms.

13. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 11, wherein the electrolyte salt (D) comprises a metal cation chosen from alkali metals and alkaline earth metals of Groups 1 and 2 of the Periodic Table.

14. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 13, wherein the electrolyte salt (D) comprises a metal cation of lithium type.

15. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 14, wherein the amount of the electrolyte salt (D) is determined so that the O/Li molar ratio is between 15 and 40.

16. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1, wherein the electrolyte salt (D) is chosen from the group consisting of the following compounds:

LiClO₄, LiBF₄, LiPF₆, LiAsF₆, LiCF₃SO₃, LiN(CF₃SO₂)₂, Li(C₂F₅SO₂)₂ and a mixture of these compounds.

17. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 11, wherein the metal cation is chosen from transition metals.

18. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 17, wherein the metal cation is chosen from the group consisting of manganese, iron, cobalt, nickel, copper, zinc, calcium and silver.

19. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1, wherein it comprises an organic electrolyte (E).

20. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 19,

wherein the organic electrolyte (E) is chosen from the group consisting of the following compounds:

propylene carbonate, ethylene carbonate, diethyl carbonate, dimethyl carbonate, ethyl methyl carbonate, γ -butyrolactone, 1,3-dioxolane, dimethoxyethane, tetrahydrofuran, dimethyl sulfoxide and polyethylene glycol dimethyl ether.

21. (Previously Presented) The composition which can be polymerized and/or crosslinked by polyaddition for a battery electrolyte as claimed in Claim 1, wherein the hydrosilylation catalyst (C) is based on platinum.

22. (Previously Presented) A polymer electrolyte for a battery obtained by polymerization and/or crosslinking by the polyaddition route, which polyaddition is optionally thermally activated, of a polymerizable and/or crosslinkable composition as claimed in Claim 1.

23. (Original) A polymer battery comprising a polymer electrolyte as claimed in Claim 22 positioned between an anode and a cathode.

24. (Previously Presented) The polymer battery as claimed in Claim 23, wherein at least one of the constituents of the cathode is chosen from the group consisting of the following compounds:
lithium metal, lithium alloys, inorganic materials comprising lithium insertions and carbonate materials comprising lithium insertions.